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2 JUN 1972

Lt. Gen. William C. Gribble, Jr.
Chief of Research and Development
Department of the Army
Washington, D. C. 20310

Dear General Gribble:

Mr. Duckett has asked me to reply to your letter of 3 May concerning the 1972 Army Science Conference. While we appreciate your invitation to attend, the pressure of business precludes our Agency's attending the conference this year.

Thank you for bringing this conference to our attention.

Sincerely,

Donald H. Steininger
Assistant Deputy Director
for
Science and Technology

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2 June 72

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WASHINGTON, D.C. 20310

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Mr. Carl E. Duckett
Deputy Director for Science and Technology
Central Intelligence Agency
Washington, D. C. 20505

3 May 1972

Dear Mr. Duckett:

A cordial invitation is extended to you to attend the 1972 Army Science Conference, to be held at the U. S. Military Academy, 20-23 June. The majority of the 400 persons expected to attend will be Army military and civilian scientists and engineers. Other delegations will include representatives from the Departments of the Navy and Air Force, a number of government agencies, Australia, Canada, the Federal Republic of Germany, France, and the United Kingdom.

This is the eighth in a series of conferences inaugurated in 1957. The program includes, for the first time, presentations by the senior representatives of the Army scientific staffs of the aforementioned Allied Nations. It also includes a panel discussion on Reliability, Availability and Maintainability chaired by Mr. Jack Hope, Office of Science and Technology, Executive Office of The President. The Honorable Robert F. Froehlke, Secretary of the Army, will speak at the banquet.

I would be particularly pleased to have you attend; but if this is not possible, a member of your staff will be most welcome. General information concerning the conference and registration card are inclosed. It is requested that the completed registration card and security clearance certification be returned promptly.

I shall look forward to seeing you or your representative at the conference.

Sincerely yours,

1 Incl
General Information

William C. Gribble, Jr.
WILLIAM C. GRIBBLE, JR.
Lieutenant General, GS
Chief of Research and Development

SCHEDULE OF CONCURRENT SESSIONS
1972 ARMY SCIENCE CONFERENCE

HOTEL MAYLER

SESSION A (Lobby Gallery) Dr. C. M. Greenhaw, Chairman SUBSESSION A-1 1530-1700 WED, 21 June Mr. John P. Halliwell	SESSION B (Crest Room) Mr. R. F. Jackson, Chairman SUBSESSION B-I 1530-1700 WED, 21 June Mr. James Stillman	SESSION C (Crest Room Terrace) Dr. J. V. R. Kaufman, Chairman SUBSESSION C-I 1530-1700 WED, 21 June Mr. John A. Brinkman	SESSION D (Lawn Terrace) COL Dale E. Wykoff, Chairman SUBSESSION D-1 1530-1700 WED, 21 June COL Robert T. Joy	SESSION E (Garden Terrace) Dr. J. R. Roscoe, Chairman SUBSESSION E-I 1530-1700 WED, 21 June Mr. Paul T. Hinton
1. Experimental Verification of Theoretical Predictions of Self-Induced Beam Distortion for High Power Density Controllable Beam Weapons System Dr. Rudolph C. Buser * Dr. Robert S. Rhode	1. Fracture Mechanics Applicability to Portland Cement Concretes * Dr. D. J. Naus	1. The Measurement and Analysis of Fatigue Crack Growth in Thick-Walled Cylinders * Mr. J. J. Miller Mr. R. R. Pujczak Mr. D. C. Winters	1. Role of Water Jet Devices in Combat Surgery * BG S. M. Bhaskar Mr. Arthur Gross Mr. D. E. Cuirright	1. The Effect of Fragmentation on the Effectiveness of * Mr. Mack Leckie
2. Laser Assisted Low Energy X-Ray Flash Generation * Mr. Roman A. Shatas Mr. John D. Stettler Mr. Harry G. Meyer Mr. Thomas G. Roberts	2. Dynamic Response of Reinforced Openings in Rock * Dr. Lewis H. Blakey	2. Deformation and Fracture of Tank Bottom Hull Plates Subjected to Mine Blast * Mr. Donald F. Haskell	2. Mandibular Bone Grafts with Surface Decalcified Bone COL Gilbert E. Lilly COL Donald E. Osborn * MAJ John C. Jones SP 5 Perry C. Haskett	2. Bridge Structures and Their Production Under Pressure * Mr. W. D. McNally, Jr.
3. Laser Ignition of Aircraft Fuel * Mr. Ona R. Lyman	3. Mapping Seismic Response Characteristics of Complex Terrain * Mr. L. E. Link Mr. W. F. Marcuson	3. Stress Singularities Associated with a Crack Inclined to a Bi-Material Interface Mr. S. L. Pu Mr. R. D. Scanlon * Mr. M. A. Russain	3. The Automated Dithionite Test for the Detection of Hemoglobin S in Military Personnel. A Technique Evolved from Molecular Concepts. * LTC Frank R. Camp COL N. F. Coate Dr. R. M. Nalbandian	3. Shaped Charge Effects on and Jet Penetration and Experimental Investigations * Mr. G. Wadsworth Mr. D. W. Thompson
4. Theoretical Studies of the Energy of a Cold Gas Jet * Mr. Charles J. Man Mr. Steven K. B.	4. Ice Forces on Vertical Piles * Mr. Roscoe E. Perham Mr. Donald E. Nevel Mr. Gary B. B.	4. Effect of Ingot Thermal Mechanical Processing Treatment on the Grain Size and Properties of Wrought 7075 Alloy Mr. B. S. Sillars	4. The Effect of Folate on Abnormal Carbohydrate Metabolism * MAJ H. L. Greene LTC E. G. Jeffkin * MAJ J. R. Herman Dr. W. E. Siffert Dr. W. E. Siffert	4. The Effect of Folate on Abnormal Carbohydrate Metabolism * Mr. H. L. Greene Mr. E. G. Jeffkin Mr. J. R. Herman Dr. W. E. Siffert

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SUBSESSION A-II 0830-1000 THURS, 22 June COL Bennett L. Lewis	SUBSESSION B-II 0830-1000 THURS, 22 June Mr. Robert A. McMurrer	SUBSESSION C-II 0830-1000 THURS, 22 June Dr. Walter S. McAfee	SUBSESSION D-II 0830-1000 THURS, 22 June COL Garrison Rapmund	SUBSESSION E-II 0830-1000, THURS, 22 June Dr. Richard L. Haley
1. The MSTRRA Technique *Mr. Guy F. Origgio	1. Data Processing System Analysis * Mr. Charles R. Vick	1. Measurement of the Angular Distribution of Photoelectrons from Third Generation Photocathode Materials * Dr. J. H. Pollard	1. Spectral Deficits in Visual Acuity Due to Laser Irradiation * Dr. Harry R. Zwick MAJ R. Bruce Bedell Mr. Kenneth Bloom	1. A Unique Heterogeneous Explosion at Liquid Nitrogen Temperature (77° K.) * Mr. Carl R. Wellman
2. Infrared Mine Detection *Mr. Dwight L. Gravitte	2. Filtering of Time Correlated Data * Mr. Richard H. Duncan	2. On the Theory of Stopping of Fast Charged Particles * Mr. Ari Brynjolfsson	2. The Preclinical Detection of Chemical Mutagens and Their Evaluation as Genetic Health Hazards * Dr. Robert L. Capizzi Dr. Bruno Papirmeister	2. Stability of Ammonium Nitrate as Inferred from Structural and Lattice-Dynamical Studies Mr. C. S. Choi Mr. Z. Iqbal * Mr. H. J. Prask Mr. S. F. Trevino
3. Measures and Countermeasures for Predetonation of Buried Pressure Electric Mines *Mr. Samuel Stuber Mr. George Haber Mr. Joseph Curran Mr. Harry Berger	3. An Extended Finite Differences Method for the Solution of System Problems * CPT C. R. Longcor	3. Anisotropic Dose and Its Applications in Directional Radiation Sensing * Dr. Stanley Kronenberg Dr. Robert A. Lux Dr. Wolfgang J. Ramm Mr. Kristian I. Nison Mr. Robert Pfeffer Mr. Harry L. Berkowitz	3. Acid-base Change in Heat Exhaustion During Basic Training * MAJ A. E. Boyd, III MAJ G. A. Beller	3. Oscillatory Behavior of Detonating Solid Explosives * Mr. Philip M. Howe Mr. Giordano Melani
4. Use of Magnetic Latitude Simulator and Data Processing in the Development of Sophisticated Land Mine Fuzes *Mr. N. C. Butler	4. A Stochastic Network to Model Air Cargo Terminals * Mr. H. A. Porte Mr. W. W. Hupp Mr. C. T. Lee Mr. L. P. McNamee	4. Fast Neutron Radiography * Mr. John J. Antal Mr. Robert L. Becker	4. A Vaccine Against Organophosphorus Poisoning * Dr. Ludwig Sternberger Dr. Van M. Sim CPT William G. Kavanagh Mr. John J. Cuculis Mr. Howard C. Meyer Mr. David E. Lenz Dr. Dennis M. Hinton	4. Electronic Processes in Explosives Initiation * Mr. H. D. Fair, Jr. Mr. D. S. Downs Mr. A. C. Forsyth Mr. M. Blais Mr. T. F. Gora

* Denotes presenter.

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SUBSESSION A-III 1030-1200 THURS, 22 June Dr. Alvin E. Goren	SUBSESSION B-III 1030-1200 THURS, 22 June Mr. Edward Lotz	SUBSESSION C-III 1030-1200 THURS, 22 June Dr. Robert J. Eichelberger	SUBSESSION D-III 1030-1200 THURS, 22 June COL Richard F. Barquist	SUBSESSION E-III 1030-1200 THURS, 22 June Dr. Benjamin L. Harris
<p>1. A BRL Lightweight Armor Concept</p> <p>Mr. A. Merendino</p> <p>* Mr. J. M. Regan</p> <p>2. Fabrication of New Composite Materials</p> <p>* Mr. James W. McCauley</p> <p>3. Structural Characterization of XP Films as Related to Mechanical Properties and Ballistic Performance</p> <p>* Mr. C. Richard Desper</p> <p>Mr. Robert W. Lewis</p> <p>Mr. S. L. Lopata</p> <p>Mr. M. L. Roylance</p> <p>4. Growth of Large Single Crystals of Al_2O_3 by the Gradient Furnace Technique for Transparent Armor Applications</p> <p>* Mr. D. Vlasnicki</p> <p>Mr. P. Schmid</p>	<p>1. Disposal of Cellulosic Waste Materials by Enzymatic Hydrolysis</p> <p>* Dr. Mary Mandels</p> <p>SP4 Lloyd Hontz</p> <p>SP4 Dixon Brandt</p> <p>2. An Intensive Approach to the Study of Materials Deterioration in the Tropics</p> <p>* Dr. Wilfried H. Portig</p> <p>Mr. George Gauger</p> <p>Mr. George F. Downs</p> <p>3. Development of Multi-purpose Water Purification Unit for Army Field Use</p> <p>Mr. Allen Ford, Jr.</p> <p>* Mr. Don C. Lindsten</p> <p>4. A Probabilistic Model for Structuring a Drainage Network</p> <p>* LTC R. L. Robinson</p> <p>Mr. A. J. Swartz</p>	<p>1. Optimum Bullet Study</p> <p>* Mr. L. C. MacAllister</p> <p>Mr. B. J. Reiter</p> <p>Mr. B. B. Grollman</p> <p>Mr. A. E. Thraillkill</p> <p>Mr. E. Roecker</p> <p>2. Experiment to Assess Capabilities of an Automated Small Arms Test Facility</p> <p>* MAJ A. B. Phillips</p> <p>CPT R. M. Jones</p> <p>3. An Analysis of 5.56MM Aluminum Cartridge "Burn-Through" Phenomenon</p> <p>* Mr. Walter Squire</p> <p>Mr. Reed E. Donnard</p> <p>4. Analysis of Band Pressure in a Gun Tube Using Finite Elements and Shell Pushing Data</p> <p>Mr. Stephen C. Sawyer</p> <p>* Mr. John M. Hurban</p>	<p>1. Restoration of Drug-resistant Bacteria to Sensitivity to Chemotherapeutic Drugs</p> <p>* Dr. Fred E. Hahn</p> <p>Miss Jennie Ciak</p> <p>2. A Mediator for Triggering Non-specific Host Defense Mechanisms</p> <p>* Dr. R. S. Pekarek</p> <p>Dr. R. W. Wannemacher</p> <p>3. Penetration of the Intestinal Epithelium by Various Microorganisms</p> <p>* Dr. Akio Takeuchi</p> <p>4. Control of VEE Epizootic-Epidemic by Vaccine Developed at USAMRIID</p> <p>* LTC Richard O. Spertzel</p> <p>COL Dan Crozier</p>	<p>1. The Kinetics and Mechanism of the Binary G3 Reaction as Determined by NMR Spectroscopy</p> <p>Mr. R. L. Wintermyer</p> <p>* Miss Linda Szafraniec</p> <p>Mr. Harvey R. Bradford</p> <p>Mr. Harold Klepper</p> <p>2. Molecular Orbital Theory as Applied to Fulvene Reactions</p> <p>* LTC Robert B. Henry</p> <p>3. The Mechanism of Action and Treatment of Palytoxin Poisoning</p> <p>* MAJ James A. Vick</p> <p>Mr. Joseph S. Wiles</p> <p>4. A Heat Stable, Highly Sensitive Enzyme for Detection and Identification of Nerve Agents</p> <p>* Dr. David N. Kramer</p> <p>Dr. Harry G. Michel</p> <p>Dr. William Swain</p> <p>Mrs. Ethel Hackley</p>

SUBSESSION A-IV 1330-1500 THURS, 22 June LTC Austin Lowry	SUBSESSION B-IV 1330-1500 THURS, 22 June Dr. William Banks	SUBSESSION C-IV 1330-1500 THURS, 22 June Dr. David B. Rosenblatt	SUBSESSION D-IV 1330-1500 THURS, 22 June Mr. Victor L. Friedrich	SUBSESSION E-IV 1330-1500 THURS, 22 June Dr. Vitalij Garber
<p>1. Human Engineering Laboratory Battalion Artillery Test (HELBAT)</p> <p>* Mr. Gary L. Horley</p> <p>2. Hand-Held Laser Rangefinder (AN/GVS-5)</p> <p>* Mr. R. J. Newton Mr. F. A. Kobylarz Mr. R. P. Tuttle</p> <p>3. Lightweight, Small Laser Transmitter Design for Rangefinders</p> <p>Mr. John W. Strozzyk MAJ John Hynd * CPT Jesse Moss</p> <p>4. ARMDOP/ZERO-DOP Positioning Technique</p> <p>* Mr. Joseph F. Vannigan</p>	<p>1. A Unified Method of Describing Vehicle Dynamics</p> <p>* Mr. N. R. Murphy Mr. A. S. Lessem</p> <p>2. Analytical Prediction of Vehicle Mobility</p> <p>* Mr. Howard Dugoff Mr. A. A. Rula</p> <p>3. The Effects of Vibration on Vision as Applied to Military Vehicles</p> <p>* Mr. Richard A. Lee</p> <p>4. Dynamic Response Index Minimization for Personnel Escape Systems</p> <p>* Mr. L. A. Destefano</p>	<p>1. Friction of Poly (n-Alkyl Methacrylates)</p> <p>* Mr. Henry Gisser Mr. Marco Patronio</p> <p>2. High Temperature Polyimides from a New Hexahydrobenzodipyrrole Monomers</p> <p>* Mr. John T. Stapler Mr. Joseph Bornstein</p> <p>3. A New Emphasis on the Use of Excited State Factors for the Interpretation of Impurity-Ion Spectra</p> <p>* Dr. S. Kulpa Dr. N. Karayianis</p> <p>4. New Class of Materials for High Energy Storage Applications from Crystallization of Inorganic Dielectric Glasses under Pressure</p> <p>* Dr. R. J. Zeto Mr. E. Hryckowian Mr. C. D. Bosco</p>	<p>1. Millimeter Wave Quasi-Optical Techniques for Device and Circuit Functions</p> <p>* Mr. Metro M. Chrepta Dr. Harold Jacobs</p> <p>2. Rare-earth Cobalt Permanent Magnet Materials for Electromechanical Energy Conversion Devices</p> <p>* Dr. G. Iafrate Mr. R. L. Ross Dr. F. Rothwarf Dr. C. Campagnoulo</p> <p>3. Fabrication of Optical Elements by Means of a Low Energy Ion Beam</p> <p>* Mr. James D. Lester</p> <p>4. A New Approach to Digital Signal Detection</p> <p>* Mr. William A. Huber</p>	<p>1. A Parametric Analysis of the Multiple Artillery Rocket System (MARS) vs the Improved 8-inch Howitzer</p> <p>* MAJ F. J. Franks</p> <p>2. A Means of Inducing Variable Swirl and Increased Engine Efficiency in a Stratified Charge Wankel Engine</p> <p>* CPT D. M. Hoon</p> <p>3. The Ring Airfoil Grenade</p> <p>* Mr. Abraham Platau</p> <p>4. A Novel Synthesis of RMX</p> <p>* Mr. V. I. Siele Mr. M. Warren Mr. J. Leccacorvi Mr. E. E. Gilbert</p>

SUBSESSION A-V 0830-1000, FRI, 23 June Dr. George K. Hess	SUBSESSION B-V 0830-1000, FRI, 23 June Mr. L. M. Taylor	SUBSESSION C-V 0830-1000, FRI, 23 June Mr. Paul F. Yaggy	SUBSESSION D-V 0830-1000, FRI, 23 June Mr. Benjamin Goodwin	SUBSESSION E-V 0830-1000 FRI, 23 June Dr. William W. Carter
<p>1. Choosing Performance Parameters for a Ground Surveillance Radar with Foliage Penetration Capability</p> <p>* Mr. L. V. Sargent, Jr.</p> <p>2. Receiver Design and Evaluation by Computer Simulation</p> <p>*Dr. T. J. Klein</p> <p>3. Doppler Translator</p> <p>*Mr. Otto E. Rittenbach</p> <p>4. Studies in Personnel Detection Radar</p> <p>Mr. C. A. Roberts * Mr. A. L. Antony Mr. S. J. Poperone</p>	<p>1. Spectroscopic Studies of Luminescence Emitted by Dyes Irradiated by Laser Light</p> <p>* Mr. J. A. Sousa Mr. J. F. Roach</p> <p>2. Improved Sound Ranging Location of Enemy Artillery</p> <p>Dr. Donald M. Swingle * Dr. Craig Crenshaw Mr. Raymond Bellucci</p> <p>3. Application of Image Up-Conversion to Night Fire Control</p> <p>* Mr. Joseph A. Schmitz</p> <p>4. A Helium-Neon Laser Hit-Kill Simulator</p> <p>SP4 M. Curtis Mr. J. Isaacson Mr. E. Kratschmer Mr. W. Wilson * SP5 B. Yorks</p>	<p>1. Discharge of Helicopters by Electronically Controlled Emission of Charge Carrying Liquid Droplets</p> <p>* Mr. Rudolph G. Buser Mr. H. M. Kaunzinger Mr. Hans Inslerman</p> <p>2. Dynamic Compatibility of Helicopter Propulsion Systems</p> <p>Mr. James Gomez * Mr. John M. Vance</p> <p>3. A Theoretical and Experimental Investigation of Flap-Lag Stability of Hingeless Helicopter Rotor Blades</p> <p>* Mr. Robert Ormiston Mr. William Bousman</p> <p>4. Development of a Dynamic Model for an Aircraft Gun Turret System</p> <p>* Mr. Tonney M. M. Kung Mr. James T. Wong Mr. Philip E. Townsend</p>	<p>1. Miss Distance Radar - A Development for Air Defense Weapons Testing</p> <p>* Mr. Charles E. French</p> <p>2. The Frequency Response of a Pneumatic Tee Junction</p> <p>LTC F. J. Redd * CPT F. Cardile</p> <p>3. Optimization of Resource Allocation in Maintenance Management Logistics Systems</p> <p>* Mr. R. L. Trent COL E. Martin Mr. J. C. Wine</p> <p>4. Increased Density for Military Foods</p> <p>* Mr. A. R. Rahman Mr. W. L. Henning Mr. S. Bishov Mr. D. E. Westcott</p>	<p>1. A Thixotropic Fuel for Tactical Missiles</p> <p>* Mr. Barry D. Allan</p> <p>2. Electrical Simulation of the Internal Electromagnetic Pulse</p> <p>* Mr. John A. Rosado</p> <p>3. Response of Cylindrical Shells to Traveling Load Simulation of X-Ray Blow-off Impulse</p> <p>* Mr. N. J. Haffington, Jr. Mr. John D. Wortman</p> <p>4. Advanced High Energy Missile Control Systems</p> <p>* Dr. L. C. Aha</p>